

Teachers' trust in AI-powered educational technology and a professional development program to improve it

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Abstract

Evidence from various domains underlines the critical role that human factors, and especially trust, play in adopting technology by practitioners. In the case of Artificial Intelligence (AI) powered tools, the issue is even more complex due to practitioners' AI-specific misconceptions, myths and fears (e.g., mass unemployment and privacy violations). In recent years, AI has been incorporated increasingly into K-12 education. However, little research has been conducted on the trust and attitudes of K-12 teachers towards the use and adoption of AI-powered Educational Technology (AI-EdTech). This paper sheds light on teachers' trust in AI-EdTech and presents effective professional development strategies to increase teachers' trust and willingness to apply AI-EdTech in their classrooms. Our experiments with K-12 science teachers were conducted around their interactions with a specific AI-powered assessment tool (termed AI-Grader) using both synthetic and real data. The results indicate that presenting teachers with some explanations of (i) how AI makes decisions, particularly compared to the human experts, and (ii) how AI can